(a) and (b) in which the block (a) is compatible with the polymer phase (A) and incompatible with the polymer phase (B) and the block (b) is compatible with the polymer phase (B) and incompatible with the polymer phase (A), and comprising at least one conjugated diene monomer and, optionally, at least one aromatic vinyl monomer, wherein the polymers forming the polymer phases (A) and (B) satisfy the following equations (I) and (II):

$$Mw_{30}(A)/Mw(a) \leq 1.2 \qquad (I)$$

$$Mw_{30}(B)/Mw(b) \leq 1.2 \qquad (II)$$

wherein $Mw_{30}(A)$: a value of molecular weight corresponding to 30% of the cumulative area when converting the curve of the distribution of the molecular weight measured by GPC to the integrated molecular weight curve of the polymer forming the polymer phase (A),

Mw30(B): a value of molecular weight corresponding to 30% of the cumulative area when converting the curve of the distribution of the molecular weight measured by GPC to the integrated molecular weight curve of the polymer forming the polymer phase (B),

Mw(a): weight average molecular weight of block (a) of block copolymer, and

Mw(b): weight average molecular weight of block (b) of block copolymer.

Claim 14. (Amended) A rubber composition comprising (I) 100 parts by weight of a block copolymer having at least two mutually incompatible blocks (a) and (b) and composed of at least one conjugated diene monomer and, optionally, at least one aromatic vinyl monomer and (II) 5 to 200 parts by weight of (i) a polymer (α) compatible with the block (a), (ii) a polymer (β) compatible with the block (b) or (iii) a mixture of the polymer (α) and the polymer (β), wherein the weight average molecular weights of the polymers (α) and (β)